



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,742	12/16/2003	Jae-Eun Lim	312973-P0083	3669
47604	7590	02/16/2005	EXAMINER	
PIPER RUDNICK LLP P. O. BOX 9271 RESTON, VA 20195			ISAAC, STANETTA D	
		ART UNIT	PAPER NUMBER	
		2812		

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/735,742	LIM ET AL.
	Examiner Stanetta D. Isaac	Art Unit 2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 December 2004.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1,3-5,11-14,19 and 20 is/are allowed.
- 6) Claim(s) 6-10 and 15-18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 December 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.



LYNNE A. GURLEY

PRIMARY PATENT EXAMINER  
TC 2800, AU 2812

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

This Office Action is in response to the amendment filed on 12/17/04. Currently, claims 1, <sup>and</sup> 3-20 are pending. Applicant has canceled claim 2.

### *Specification*

The amendment to the disclosure based on minor formalities are sufficient to overcome the objection to the specification. The objection to specification has been withdrawn.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-10 recites the limitation "thereby forming the nitrided oxide on the liner oxide." in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claims 15 and 16 recites the limitations "...step d) is carried out by using an RPN" and in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 17 and 18 recites the limitation "step d) is carried out by using an RLSA" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Specifically, there is insufficient antecedent bases for steps e) and d) with regards to the newly amended independent claims 1 and 14, since stated on page 12, lines 4-15, the first

Embodiment calls for “a nitrided oxide layer” to be formed between the “wall oxide 316” and the “liner oxide 318”, where the “nitridation process is carried out in a annealing furnace or a rapid thermal process (RTP)...”

### ***Allowable Subject Matter***

The following is a statement of reasons for the indication of allowable subject matter:

The closest prior art of record, Beyer et al., US Patent 6,498,383 in view of Wu et al., US Patent 6,180,467, fails to teach or render obvious the method for independent claim 1, “...thereby forming the nitrided oxide between the liner oxide and the wall oxide.” In addition, the prior art of record fails to teach or render obvious the method for independent claim 14, “d) carrying out a nitridation process for forming a nitrided oxide on the wall oxide; e) forming a liner oxide on the nitrided oxide;”

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 3-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

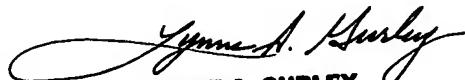
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanetta D. Isaac whose telephone number is 571-272-1671. The examiner can normally be reached on Monday-Friday 9:30am -6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on 571-272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stanetta Isaac  
Patent Examiner  
February 10, 2005

  
LYNNE A. GURLEY  
PRIMARY PATENT EXAMINER  
TC 2800, AU 2812